THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SACHIO SASAKI,
HIROSHI NOU, MASAHIRO WANOU,
and MASATOSHI KIMURA

Appeal No. 96-3392
Application 08/121,512[1]

ON BRIEF

Before BARRETT, FLEMING, and CARMICHAEL, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

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[1] Application for patent filed September 16, 1993, entitled "Image Forming Apparatus," which claims the foreign filing priority benefit under 35 U.S.C. § 119 of Japanese Application 5-85684, filed March 19, 1993.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-6, 8-12, 14-17, 19-26, 28, 30-33, 35-39, and 41. Claims 7, 13, 18, 27, 29, 34, and 40 are indicated to contain allowable subject matter.

We affirm.

BACKGROUND

The disclosed invention is directed to an image forming apparatus, such as a copying machine, capable of effecting control of the bias voltage to the developer to prevent adhesion of toner to an uncharged region of the photosensitive drum. This eliminates unnecessary toner on the photosensitive drum to prevent waste and to prevent contamination of the paper and the transfer roller.

Claim 1 is reproduced below.

> 1. An image forming apparatus for forming an image on a sheet, comprising:
>
> an endless latent image carrier;
>
> means for charging said latent image carrier;
>
> means for forming a latent image on said latent image carrier charged;
>
> means for developing the latent image formed on said latent image carrier with a one-component developer by

supplying the developer to said latent image carrier under application of a developing bias voltage, said developing means being positioned at a fixed position both during developing operation and during non-developing operation;

means for transferring the image developed on said latent image carrier to the sheet;

means for rotating said latent image carrier and also driving said developing means to supply the developer to said latent image carrier; and

a controller for sequence-controlling said driving means, said charging means and said developing means so that the application of the developing bias voltage to said developing means is started a predetermined time after the rotation of said latent image carrier and the drive of said developing means and also the charging operation of said charging means have been started.

The examiner relies on the following references:

Kohyama	5,148,219	September 15, 1992
Kurokawa et al. (Kurokawa)	5,155,533	October 13, 1992
Nishio et al. (Nishio)	5,164,773	November 17, 1992
Yokoyama et al. (Yokoyama)	5,283,615	February 1, 1994
Mokusu et al. (Mokusu)[2]	2-148076	June 6, 1990

[2] The abstract lists the inventor's name as "Hiroki Kisu" and "Kisu" is the name used by the examiner in the rejection. The translation provided by the Scientific and Technical Information Center (S.T.I.C.) Translations Branch of the Patent and Trademark Office lists the inventor as "Hiroki Mokusu." We use the name "Mokusu (Kisu)." A copy of the

(Japanese Kokai)

Claims 1-4, 9, 10, and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kurokawa.

Claims 20-22, 24, 31, and 37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yokoyama.

Claims 5, 11, and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kurokawa and Mokusu (Kisu).

Claims 6, 12, and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kurokawa and Nishio.

Claims 8, 14, and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kohyama and Kurokawa.

Claims 23, 30, and 36 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yokoyama and Kurokawa.

Claims 25, 32, and 38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yokoyama and Mokusu (Kisu).

Claims 26, 33, and 39 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yokoyama and Nishio.

Claims 28, 35, and 41 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kohyama and Yokoyama.

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translation accompanies this decision.

We refer to the Final Rejection (Paper No. 8) (pages referred to as "FR__") and the Examiner's Answer (Paper No. 17) (pages referred to as "EA__") for a statement of the examiner's position and to the Substitute Brief filed December 20, 1995, (Paper No. 16) (pages referred to as "Br__") for a statement of appellants' position.

OPINION

We sustain the rejections based on the detailed reasons of the examiner in the Final Rejection and the Examiner's Answer, as elaborated on below.

Grouping of claims

Appellants argue that none of the rejected claims stand or fall together with any other claims (Br10). Nevertheless, while appellants have devoted separate sections of their brief to the various rejections, appellants have not argued the merits of the rejections as required by Patent and Trademark Office (PTO) rules. See 37 CFR §§ 1.192(c)(7), (c)(8)(iv) (1995). We address the insufficiencies of appellants' arguments in the separate sections. We do not look for differences beyond those which are discussed in appellants' brief and do not address arguments that have not been made.

Cf. In re Baxter Travenol Labs., 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) ("It is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art."); In re Wiseman, 596 F.2d 1019, 1022, 201 USPQ 658, 661 (CCPA 1979) (arguments must first be presented to the Board before they can be argued on appeal).

The examiner correctly points out (EA2-3) that appellants do not address the secondary references and argue that the dependent claims are patentable because they depend on a presumably allowable independent claim. The claims stand or fall together with independent claims 1 and 20.

Claims 1-6, 8-12, 14-17, and 19

Claims 1-4, 9, 10, and 15 -- Kurokawa

Kurokawa describes a two-component developer as a mixture of toner and carrier particles (col. 1, lines 19-20). One- and two-component developers use different developer compositions and may use different apparatus to apply the toner, but both apply a bias to the developer to charge the toner and both have the same problem of depositing toner on

the uncharged non-image portion of the drum. Kurokawa discloses applying the bias application voltage to the developer a predetermined time after starting rotation of the latent image carrier and starting charging of the carrier (figure 9) for the same purpose of eliminating deposition of developer on the non-image area as appellants' invention. The examiner found that the sole difference between Kurokawa and the subject matter of claim 1 is that claim 1 recites a one-component developer and Kurokawa discloses a two-component developer. The examiner concluded that "it would have been obvious to one of ordinary skill in the art to use a one-component developer instead of a two-component developer since the use of one-component developers is [sic, was] extremely well known in the art and the applicant has not disclosed that the use of such developers is critical to the proper functioning of the invention" (FR4). We agree. Since both one-component and two-component systems use bias application to control deposition of toner, and since both suffer from the same problem of excess toner being deposited on the non-image portion of the drum, one of ordinary skill in the image forming art would have been motivated to apply the

bias application timing control system of Kurokawa to a one-component developer system. The examiner has established a prima facie case of obviousness.

Appellants argue that "[a] conventional developing unit of a two-component developer has a mechanism for bringing the developing means into and out of contact with a latent image carrier" (Br11) and "suffers from the problem that the mechanism becomes large-sized and costly" (Br11). Appellants argue that the claimed one-component developer "enables the developing means to be always placed at the fixed position ... and therefore becomes smaller-sized and less costly" (Br11). Appellants argue that Kurokawa does not disclose or suggest (1) "adopting the developing unit of a one-component developer" (Br12), and (2) "the developing unit of a one-component developer wherein no mechanism to move the developing means is required" (Br12). These arguments do not address the examiner's rejection, misapprehend the teachings of Kurokawa, and are not persuasive.

Appellants argue that Kurokawa "does not disclose or suggest adopting the developing unit of a one-component developer" (Br12), i.e., that Kurokawa does not expressly

teach a one-component developer. This does not address the examiner's reasoning that one-component developers were well known in the image forming art and that it would have been obvious to apply the bias application control technique of Kurokawa to a one-component developer for the purpose of solving the same contamination problem. The express teachings of a reference are not determinative of obviousness, which must be viewed by the hypothetical person of ordinary skill in the art. 35 U.S.C. § 103(a); In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art). The reason, suggestion, or motivation for a modification may come from what is known to the person of ordinary skill as well as from a specific teaching in a reference. See In re Oetiker, 977 F.2d 1443, 1448, 24 USPQ2d 1443, 1446-47 (Fed. Cir. 1992) (Nies, C.J., concurring) ("I believe it would better reflect the concept of obviousness to speak in terms of 'from the prior art' rather than simply 'in the prior art.' The word 'from' expresses the idea of the statute that we must look at obviousness issue through the eyes of one of ordinary skill in

the art and what one would be presumed to know with that background."); Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996) (A suggestion to combine or modify "may come expressly from the references themselves. It may come from knowledge of those skilled in the art that certain references, or disclosures in the references, are known to be of special interest or importance in the particular field. It may also come from the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem." (Citations omitted.)). A conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Appellants have not provided any reasons why it would have been nonobvious to one of ordinary skill in the image forming art to apply the bias application timing control device of Kurokawa to a one-component developer.

Appellants argue that a conventional two-component developer has a mechanism for moving the developer into and

out of contact with the photosensitive drum (Br11) and that Kurokawa does not "disclose or suggest the developing unit of a one-component developer wherein no mechanism to move the developing means is required" (Br12). These arguments imply that a characteristic feature of two-component developers is that they move into and out of position and, therefore, the developer in Kurokawa is not positioned at a fixed location during developing and non-developing operations. These arguments are unpersuasive.

There is no absolutely no indication that the developing unit 18 in the prior art in Kurokawa (figure 1) or the developing unit 38 in the invention of Kurokawa (e.g., figures 5 or 8) moves into and out of position. The developing sleeve 38b of the developing unit 38 is not in contact the surface of the drum, but this is the way this developer works as described in Yokoyama; the sleeve is not a roller and does not move into and out of contact. Kurokawa discloses that a developing roller is an alternative to a developing sleeve (col. 1, lines 20-22). The reason for the prior art moving the developer into and out of contact with the drum, as described by appellants, is to avoid depositing

toner on the non-image areas of the photosensitive drum. Since Kurokawa provides a bias application timing control to eliminate the deposition of developer on the non-image area, there is no reason why it would also move the developer.

In addition, the fact that some two-component developers move into and out of position does not mean that all do. Thus, there is no suggestion that Kurokawa's developer moves. In the background of the invention, appellants describe prior art techniques to solve the problem of toner adhering to the uncharged region. One conventional technique is a mechanism for bringing the developing unit into contact with the photosensitive drum when printing is to be carried out and moving the unit away from the drum when printing is not carried out (specification, page 5, line 18 to page 6, line 2); the mechanism is said to be complicated and costly (specification, page 6, lines 16-25). This appears to be the movable prior art developer referred to by appellant. However, we find nothing that suggests this technique is a characteristic feature of two-component developers, as implied by appellants. Since the purpose of moving the developer is to overcome the problem of depositing toner on the non-image

areas of the photosensitive drum, then surely there are developers that have a fixed position. The prior art developing unit is described as a "two-component developing unit, a magnetic, single-component developing unit, non-magnetic single-component developing unit, etc." (specification, page 2, lines 17-19), which indicates that the moving technique was applicable to all types of developing units, including one-component developers, to overcome the problem of applying charged toner to the non-image areas of the photosensitive drum. Therefore, appellants have not shown that the two-component developer in Kurokawa is movable.

Appellants have not persuaded us that the examiner erred. The rejection of claims 1-4, 9, 10, and 15 is sustained.

Claims 5, 11, and 16 -- Kurokawa and Mokusu (Kisu)

Another admittedly conventional technique for preventing residual toner from adhering to the transfer roller and causing the paper to be stained during the subsequent printing process is a mechanism for bringing the transfer roller into and out of contact with the photosensitive drum as taught in Mokusu (specification, page 5, lines 11-17; page 6,

lines 3-15; page 6, line 26 to page 7, line 3), as applied in the rejection of claims 5, 11, and 16.

Appellants repeat the rejection, but do not address the examiner's reasons (Br14-15). Appellants argue that the claims are dependent on claim 1, which is considered to be allowable, and they should be allowable therewith (Br15). These arguments do not comply with the PTO requirements for claims to be considered separately argued. See 37 CFR § 1.192(c)(8)(iv) (1995). Therefore, claims 5, 11, and 16 are presumed to stand or fall together with claim 1, from which they indirectly depend. The rejection of claims 5, 11, and 16 is sustained.

Claims 6, 12, and 17 -- Kurokawa and Nishio

Appellants argue that claims 6, 12, and 17 are dependent on claim 1, which is considered to be allowable, and they should be allowable therewith (Br15). Thus, claims 6, 12, and 17 have not been separately argued, 37 CFR § 1.192(c)(8)(iv), and are presumed to stand or fall together with claim 1, from which they directly or indirectly depend. The rejection of claims 6, 12, and 17 is sustained.

Claims 8, 14, and 19 -- Kohyama and Kurokawa

Appellants' arguments regarding claims 8, 14, and 19 are in the nature of a description of the invention and do not address the merits of the examiner's rejection. Appellants do not point to any error in the examiner's reasoning that "[i]t would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the cleanerless image forming apparatus disclosed in Kohyama with a sequence controller as disclosed in KUROKAWA ET AL. for the purpose of minimizing toner [sic] unwanted toner usage" (FR7). Because appellants have not argued any error in the examiner's findings of fact or conclusions of law, the rejection of claims 8, 14, and 19 is sustained.

Claims 20-26, 28, 30-33, 35-39, and 41

Claims 20-22, 24, 31, and 37 -- Yokoyama.

Yokoyama discloses an image forming apparatus having two two-component developers, for two different colors. Yokoyama is directed to separating out and collecting the toner from the first developer that is scraped off in the second developer. The developers are shown to be of the magnetic

brush type as shown in figures 2 and 3, which does not change position. As shown in figure 10, "the drive of the developing means [1ST DEVELOP. DEVICE (3)] and the application of the developing bias voltage to said developing means [BIAS SW_1] are started a predetermined time after the rotating of said latent image carrier [PHOTOSENSITIVE MEMBER] and the charging operation of said charging means [1ST CHARGER (2)] have been started," as recited in claim 20.

Appellants' arguments (Br12-14, Issue V(B)) are essentially identical to the arguments with respect to claim 1 and are unconvincing for the same reasons. Appellants have not rebutted the examiner's position that it would have been obvious to apply the delay system of Yokoyama to a one-developer system. There is no suggestion that the two-component developers in Yokoyama move into and out of position as implied by appellants. The rejection of claims 20-22, 24, 31, and 37 is sustained.

Claims 23, 30, and 36 -- Yokoyama and Kurokawa

Appellants' arguments regarding claims 23, 30, and 35 (Br17-18, Issue V(F)) are in the nature of a description of

the invention and do not address the merits of the examiner's rejection. Appellants refer to the two-component developer in Yokoyama and Kurokawa, which limitation has been discussed with respect to the rejection of claims 1 and 20. Because appellants have not argued any error in the examiner's findings of fact or conclusions of law, the rejection of claims 23, 30, and 36 is sustained.

Claims 25, 32, and 38 -- Yokoyama and Mokusu (Kisu)

Appellants' arguments regarding claims 25, 32, and 38 (Br18-20, Issue V(G)) are in the nature of a description of the invention and a restatement of the rejection, but do not address the merits of the examiner's rejection. Appellants' argument that claims 25, 32, and 38 are patentable because they depend on claim 20 (Br20) does not address the rejection. Because appellants have not argued any error in the examiner's findings of fact or conclusions of law, the rejection of claims 25, 32, and 38 is sustained.

Claims 26, 33, and 39 -- Yokoyama and Nishio

Appellants' arguments regarding claims 26, 33, and 39 (Br20, Issue V(H)) state that "[t]he subject matter in these claims is similar to that described with regard to Claims 5, 11, and 16 ... [and] are also considered to patentably distinguish over the applied combination of references for the same reasons." Claims 5, 11, and 16 do not contain the same subject matter. Appellants probably mean to refer to claims 6, 12, and 17. However, since no argument was provided with respect to the rejection of claims 5, 11, and 16 or claims 6, 12, and 17, appellants nowhere address the merits of the examiner's rejection. Because appellants have not argued any error in the examiner's findings of fact or conclusions of law, the rejection of claims 26, 33, and 39 is sustained.

Claims 28, 35, and 41 -- Kohyama and Yokoyama

Appellants' arguments regarding claims 28, 35, and 41 (Br20-21, Issue V(I)) state that "[t]he subject matter in these claims is similar to that described with regard to Claims 6, 12, and 17 ... [and] are considered to patentably distinguish over the applied combination of references for the same reasons." Claims 6, 12, and 17 do not contain the same

subject matter. Appellants probably mean to refer to claims 8, 14, and 19. However, since no argument was provided with respect to the rejection of claims 6, 12, and 17 or claims 8, 14, and 19, appellants nowhere address the merits of the examiner's rejection. Because appellants have not argued any error in the examiner's findings of fact or conclusions of law, the rejection of claims 28, 35, and 41 is sustained.

CONCLUSION

The rejections of claims 1-6, 8-12, 14-17, 19-26, 28, 30-33, 35-39, and 41 are sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

LEE E. BARRETT Administrative Patent Judge	)
MICHAEL R. FLEMING Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JAMES T. CARMICHAEL Administrative Patent Judge	)

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